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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/073,857 | 02/14/2002 | Atsushi Umeda | 111969 | 6327 |

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EXAMINER

PHAM, LEDA T

ART UNIT PAPER NUMBER

2834

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,857

Applicant(s)

UMEDA, ATSUSHI

Examiner

Leda T. Pham

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 02/14/02. 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the angular that the windings are distributed at an end surface of the stator core is more than 180 degree in figure 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the abstract uses claim language, "comprises" on line 2, page 20. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claim 8 is objected to because of the following informalities: "said another three-phase winding" on line 4 of, claim 8 lack of antecedent basis. It should be change to -- another three-phase winding in said plurality of three-phase windings --. Appropriate correction is required.

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Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, the subject matter recited as "said plurality of phase-windings" is confusing because it is unclear whether this "plurality of phase-winding" is formerly recited as "plurality of three-phase windings" in claim 1 and 2. If it is so, the recitation should clearly states that "said plurality of three-phase winding". If it is not the case, then does the claim recite the plurality of phase-windings in the " plurality of three-phase windings"? In light of the spec. subject matter recited "said plurality of phase-windings" is understood as the plurality of phase-windings in "said plurality of three-phase windings".

In claim 6, "an angular" is indefinite because it does not define an electrical angle or mechanical angle? Also, how does the winding distribute at the end surface of the stator core in an angular more than 180 degree? Does the angular recite in counterclockwise of clockwise?

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claim 1 – 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Slavik et al. (U.S. Patent No. 5,686,774).

Slavik teaches a rotary electric machine (figure 3) including a stator core an armature winding mounted in said stator core, wherein said armature winding comprising a plurality of three-phase windings, one of which is a Δ -connection winding (46) having output ends that are connected in series with respective phase-winding of another three-phase winding (48).

Referring to claim 2, Slavik teaches said plurality of three-phase windings is mounted in said stator core (column 1, lines 20 – 21) so that the phase of current flowing in one phase winding is $\pi/6$ radian in electric angle different from the phase of current flowing in another phase-winding (column 3, lines 25 – 28).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4 – 5, 8 – 10, and 12 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slavik in view of Umeda et al. (U.S. Patent No. 5,936,326).

Slavik discloses the claimed invention, except for the added limitations of the armature winding comprising a plurality of electric conductors welded together.

Umeda discloses in figure 6, 9 and 12 the armature winding having a plurality of electric conductors welded together to form a winding on the stator core.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the armature winding having the electric conductors welded together as taught by Umeda for forming a winding on the stator core.

Referring to claim 5, Umeda teaches the rotary electric machine wherein each of said electric conductors has a rectangular cross-section (figure 8, and figure 11).

Referring to claim 8, Umeda teaches the rotary electric machine (figure 1) further comprising a rectifier unit (5) for rectifying voltages induced in said armature winding, wherein the other output ends of said another three-phase winding that are not connected to said Δ -connection winding are connected to said rectifier unit (column 6, lines 11- 16).

Referring to claim 9, Slavik teaches a rotary electric machine (figure 2 - 3) having armature winding comprising three first phase-windings that form a Δ -connection winding (46) having output ends and three second phase-windings (48) that are respectively connected in series to said output ends to form a star-connection three-phase winding. However, Slavik does not clearly disclose in his invention that rotary electric machine comprising a stator including a stator core and three-phase armature winding mounted in the stator core, a rotor having a plurality of magnetic poles, and a rectifier unit.

Umeda in figure 1 disclose a rotary electric machine comprising a stator including a stator core (2) and three-phase armature winding mounted in the stator core, a rotor (3) having a plurality of magnetic poles, and a rectifier unit (5) to provide an alternator for a vehicle such as a passenger automotive vehicle or a truck.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the structure of Slavik's rotary electric machine with clearly describe the stator, rotor, and rectifier as taught by Umeda.

Doing so would provide an alternator for a vehicle such as a passenger automotive vehicle or a truck.

Referring to claim 10, Slavik teaches the rotary electric machine wherein said first and second phase-windings are mounted in said stator core so that the phase of current flowing in said first phase-windings is $\pi/6$ radian in electric angle different from the phase of current flowing in said second phase windings (column 3, lines 25 – 28).

Referring to claim 12, Umeda teaches the rotary electric machine wherein each of said first and second phase-windings comprises a plurality of U-shaped conductor segments (figure 7, 10).

Referring to claim 13, Umeda teaches the rotary electric machine wherein each of said U-shaped conductor segments has a rectangular cross-section (figure 8, 11).

10. Claims 3, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slavik as applied to claim 1, 9 above, and further in view of Auinger (U.S. Patent No. 4,144,470).

Referring to claim 3 and claim 11, Slavik teaches the claimed invention, except for the added limitations of each of said plurality of phase-windings has approximately the same number of turns.

Auinger teaches the phase-windings in an improvement having approximately the same number of turns (lines 31 – 43, column 25) for designing the phase winding.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the phase windings in the rotary electric machine have the same number of turns as taught by Auinger for designing the phase winding.

11. Claims 6 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slavik as applied to claim 1 above, and further in view of Oohashi et al. (U.S. Patent No. 6,469,413 B1).

Referring to claim 6, Slavik teaches the claimed invention, except for the added limitations of the output ends of said Δ -connection winding are distributed at an end surface of said stator core in an angular range that is more than 180 degree.

Oohashi teaches the winding in an alternator distributed in the end surface of the stator core in an angular of 180 degree (column 6, lines 18 – 34) for forming lead wires.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Slavik's output end of Δ -connection winding as taught by Oohashi to form lead wires.

Referring to claim 7, Oohashi teaches the rotary electric machine further comprising lead wires (see abstract) that form output ends of said plurality of three-phase windings, wherein said lead wires are extended in radial directions so that they do not overlap one another.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (703) 305-4864. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the

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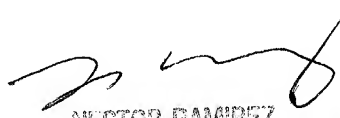
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organization where this application or proceeding is assigned are (703) 746-9176 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

Leda T. Pham
Examiner
Art Unit 2834

LTP
November 1, 2002



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